

What is claimed is:

1. A method of employing fuses and circuit breakers with a power distribution bus, comprising the steps of:

inserting a fuse with an alarm connector in a first location plugged into the bus for receiving power from the power distribution bus;

inserting a circuit breaker with a pair of alarm connectors in a second location plugged into the bus for receiving power from the power distribution bus;

inhibiting a response from an alarm circuit electrically linked to the first location and second location until the fuse is blown or until the circuit breaker is tripped.

2. The method of claim 1, further comprising the step of:

tripping the circuit breaker to deliver power to the alarm circuit through the pair of alarm connectors.

3. The method of claim 1, further comprising the step of:

blowing the fuse to deliver power to the alarm circuit through the alarm connector.

4. The method of claim 1, further comprising the steps of:

removing the circuit breaker from the second location;

inserting a second fuse in the second location; and

inhibiting a response from the alarm circuit until either the fuse in the first location or the second fuse is blown.

5. The method of claim 1, further comprising the steps of:

removing the fuse from the first location;

inserting a second circuit breaker in the first location; and

inhibiting a response from the alarm circuit until the first or second circuit breaker is tripped.

6. A power distribution bus alarm circuit, comprising:

a first and a second socket, each having three alarm connections and two power connections plugged into the bus;

an alarm circuit connected to first and second alarm connections of the first and second sockets, the alarm circuit being responsive to a voltage being applied from the first of the three connections of the first or second socket and being responsive to a voltage being applied across second and third connections of the first or second sockets;

a voltage source electrically connected to third alarm connections of the first and second sockets;

a fuse positioned in the first socket, the fuse electrically interconnecting the two power connections and isolating the first alarm connection from the power connection when in a non-blown state;

a circuit breaker positioned in the second socket, the circuit breaker electrically interconnecting the two power connections when in a non-tripped state and electrically interconnecting the second and third alarm connections when in a tripped state.

7. The power distribution bus alarm circuit of claim 6, further comprising:

a first conductive path leading from the first alarm connection of the first socket to the alarm circuit, the first conductive path including a diode that permits current flow between the first alarm connection of the first socket and the alarm circuit but prevents current flow between the first alarm connection of the first socket and the first alarm connection of the second socket;

a second conductive path leading from the first alarm connection of the second socket to the alarm circuit, the second conductive path including a diode that permits current flow between the first alarm connection of the second socket and the alarm circuit but prevents current flow between the first alarm connection of the second socket and the first alarm connection of the first socket.

8. The power distribution bus alarm circuit of claim 7, further comprising:

a third conductive path leading from the second alarm connection of the first socket to the alarm circuit, the third conductive path including a diode that permits

current flow between the second alarm connection of the first socket and the alarm circuit but prevents current flow between the second alarm connection of the first socket and the second alarm connection of the second socket; and

a fourth conductive path leading from the second alarm connection of the second socket to the alarm circuit, the fourth conductive path including a diode that permits current flow between the second alarm connection of the second socket and the alarm circuit but prevents current flow between the second alarm connection of the second socket and the second alarm connection of the first socket.

9. A method of employing fuses and circuit breakers with a power distribution bus, comprising the steps of:
- inserting a fuse with an alarm connector in a first location connected to the bus for receiving power from the power distribution bus;
  - inserting a circuit breaker with a pair of alarm connectors in a second location connected to the bus for receiving power from the power distribution bus;
  - inhibiting a response from a first alarm circuit electrically linked to the first location until the fuse is blown; and
  - inhibiting a response from a second alarm circuit electrically linked to the second location until the circuit breaker is tripped.
10. The method of claim 9, further comprising the step of:
- tripping the circuit breaker to deliver power to the second alarm circuit through the pair of alarm connectors.
11. The method of claim 9, further comprising the step of:
- blowing the fuse to deliver power to the first alarm circuit through the alarm connector.
12. The method of claim 9, further comprising the steps of:
- removing the circuit breaker from the second location;
  - inserting a second fuse in the second location; and
  - inhibiting a response from the second alarm circuit until the second fuse is blown.
13. The method of claim 9, further comprising the steps of:
- removing the fuse from the first location;
  - inserting a second circuit breaker in the first location; and
  - inhibiting a response from the first alarm circuit until the second circuit breaker is tripped.

14. A power distribution bus alarm circuit, comprising:

a first and a second socket, each having three alarm connections and two power connections;

a first alarm circuit connected to first and second alarm connections of the first socket, the alarm circuit being responsive to a voltage being applied from the first of the three connections of the first socket and being responsive to a voltage being applied across second and third connections of the first socket;

a second alarm circuit connected to first and second alarm connections of the second socket, the alarm circuit being responsive to a voltage being applied from the first of the three connections of the second socket and being responsive to a voltage being applied across second and third connections of the second socket;

a voltage source electrically connected to third alarm connections of the first and second sockets;

a fuse positioned in the first socket, the fuse electrically interconnecting the two power connections and isolating the first alarm connection from the power connection when in a non-blown state;

a circuit breaker positioned in the second socket, the circuit breaker electrically interconnecting the two power connections when in a non-tripped state and electrically interconnecting the second and third alarm connections when in a tripped state.

15. The power distribution bus alarm circuit of claim 14, further comprising:

a first conductive path leading from the first alarm connection of the first socket to the first alarm circuit;

a second conductive path leading from the first alarm connection of the second socket to the second alarm circuit;

a third conductive path leading from the second alarm connection of the first socket to the first alarm circuit; and

a fourth conductive path leading from the second alarm connection of the second socket to the second alarm circuit.

16. A method of employing fuses and circuit breakers with a power distribution bus, comprising the steps of:

inserting a fuse with an alarm connector in a first location in the bus for receiving power from the power distribution bus;

inserting a circuit breaker with a pair of alarm connectors in a second location in the bus for receiving power from the power distribution bus;

electrically connecting the first location to a first alarm circuit or a second alarm circuit;

electrically connecting the second location to the first alarm circuit or to a third alarm circuit;

inhibiting a response from the first alarm circuit or second alarm circuit electrically linked to the first location until the fuse is blown; and

inhibiting a response from the first alarm circuit or third alarm circuit electrically linked to the second location until the circuit breaker is tripped.

17. The method of claim 16, further comprising the step of:

tripping the circuit breaker to deliver power to the first or third alarm circuit through the pair of alarm connectors.

18. The method of claim 16, further comprising the step of:

blowing the fuse to deliver power to the first or second alarm circuit through the alarm connector.

19. The method of claim 16, further comprising the steps of:

removing the circuit breaker from the second location;

inserting a second fuse in the second location; and

inhibiting a response from the first or third alarm circuit until the second fuse is blown.

20. The method of claim 16, further comprising the steps of:

removing the fuse from the first location;

inserting a second circuit breaker in the first location; and

inhibiting a response from the first or second alarm circuit until the second circuit breaker is tripped.

21. A power distribution bus alarm circuit, comprising:

a first and a second socket, each having three alarm connections and two power connections;

a voltage source electrically connected to third alarm connections of the first and second sockets;

a fuse positioned in the first socket, the fuse electrically interconnecting the two power connections and isolating the first alarm connection from the power connection when in a non-blown state;

a circuit breaker positioned in the second socket, the circuit breaker electrically interconnecting the two power connections when in a non-tripped state and electrically interconnecting the second and third alarm connections when in a tripped state;

a first conductive path extending from the first alarm connection of the first socket, the first conductive path including a first diode that prevents current flow between the first alarm connection of the first socket and the first alarm connection of the second socket;

a second conductive path extending from the first alarm connection of the second socket, the second conductive path including a diode that prevents current flow between the first alarm connection of the second socket and the first alarm connection of the first socket;

a third conductive path extending from the second alarm connection of the first socket, the third conductive path including a diode that prevents current flow between the second alarm connection of the first socket and the second alarm connection of the second socket; and

a fourth conductive path extending from the second alarm connection of the second socket, the fourth conductive path including a diode that prevents current flow between the second alarm connection of the second socket and the second alarm connection of the first socket.

22. The power distribution bus alarm circuit of claim 21, further comprising an alarm circuit linked to first and second alarm connections of the first and second sockets, the



alarm circuit being responsive to a voltage being applied from the first alarm connection of the first or second socket and being responsive to a voltage being applied across second and third connections of the first or second sockets.

23. The power distribution bus alarm circuit of claim 21, further comprising:

a first alarm circuit linked to the first and second connections of the first socket through the first and third conductive paths, the first alarm circuit being responsive to a voltage being applied from the first alarm connection of the first socket and being responsive to a voltage being applied across the second and third connection of the first socket; and

a second alarm circuit linked to the first and second connections of the second socket through the second and fourth conductive paths, the second alarm circuit being responsive to a voltage being applied from the first alarm connection of the second socket and being responsive to a voltage being applied across the second and third connection of the second socket.

24. A method of employing fuses with a power distribution bus, comprising the steps of:

inserting a first fuse with an alarm connector in a first location in the bus for receiving power from the power distribution bus;

inserting a second fuse with an alarm connector in a second location in the bus for receiving power from the power distribution bus;

inhibiting a response from a first alarm circuit electrically linked to the first location until the first fuse is blown; and

inhibiting a response from a second alarm circuit electrically linked to the second location until the second fuse is blown.

25. The method of claim 24, further comprising the step of:

blowing the second fuse to deliver power to the second alarm circuit through the alarm connector of the second fuse.

26. The method of claim 24, further comprising the step of:

blowing the first fuse to deliver power to the first alarm circuit through the alarm connector of the first fuse.

27. A power distribution bus alarm circuit, comprising:

a first and a second socket, each having an alarm connection and two power connections;

a first alarm circuit connected to the alarm connection of the first socket, the first alarm circuit being responsive to a voltage being applied from the alarm connection of the first socket;

a second alarm circuit connected to the alarm connection of the second socket, the second alarm circuit being responsive to a voltage being applied from the alarm connection of the second socket;

a first fuse positioned in the first socket, the first fuse electrically interconnecting the two power connections and isolating the alarm connection of the first socket from the power connection when in a non-blown state;

a second fuse positioned in the second socket, the second fuse electrically interconnecting the two power connections isolating the alarm connection of the second socket when in a non-blown state.

28. The power distribution bus alarm circuit of claim 27, further comprising:

a first conductive path leading from the alarm connection of the first socket to the first alarm circuit; and

a second conductive path leading from the alarm connection of the second socket to the second alarm circuit.

29. A method of employing circuit breakers with a power distribution bus, comprising the steps of:

inserting a first circuit breaker with a pair of alarm connectors in a first location in the bus for receiving power from the power distribution bus;

inserting a second circuit breaker with a pair of alarm connectors in a second location in the bus for receiving power from the power distribution bus;

inhibiting a response from a first alarm circuit electrically linked to the first location until the first circuit breaker is tripped; and

inhibiting a response from a second alarm circuit electrically linked to the second location until the second circuit breaker is tripped.

30. The method of claim 29, further comprising the step of:

tripping the second circuit breaker to deliver power to the second alarm circuit through the pair of alarm connectors of the second circuit breaker.

31. The method of claim 29, further comprising the step of:

tripping the first circuit breaker to deliver power to the first alarm circuit through the pair of alarm connectors of the first circuit breaker.

32. A power distribution bus alarm circuit, comprising:
- a first and a second socket, each having two alarm connections and two power connections;
  - a first alarm circuit connected to first and second alarm connections of the first socket, the alarm circuit being responsive to a voltage being applied across the two connections of the first socket;
  - a second alarm circuit connected to first and second alarm connections of the second socket, the alarm circuit being responsive to a voltage being applied across the two connections of the second socket;
  - a voltage source electrically connected to one of the two connections of the first and second sockets;
  - a first circuit breaker positioned in the first socket, the first circuit breaker electrically interconnecting the two power connections when in a non-tripped state and electrically interconnecting the two alarm connections when in a non-blown state;
  - a second circuit breaker positioned in the second socket, the second circuit breaker electrically interconnecting the two power connections when in a non-tripped state and electrically interconnecting the two alarm connections when in a tripped state.
33. The power distribution bus alarm circuit of claim 32, further comprising:
- a first conductive path leading from the alarm connection of the first circuit breaker that is not connected to the voltage source to the first alarm circuit; and
  - a second conductive path leading from the alarm connection of the second circuit breaker that is not connected to the voltage source to the second alarm circuit.

34. A method of employing fuses with a power distribution bus, comprising the steps of:

inserting a first fuse with an alarm connector in a first location in the bus for receiving power from the power distribution bus;

inserting a second fuse with an alarm connector in a second location in the bus for receiving power from the power distribution bus;

electrically connecting the first location to a first alarm circuit or a second alarm circuit;

electrically connecting the second location to the first alarm circuit or to a third alarm circuit;

inhibiting a response from the first alarm circuit or second alarm circuit electrically linked to the first location until the first fuse is blown; and

inhibiting a response from the first alarm circuit or third alarm circuit electrically linked to the second location until the second fuse is blown.

35. The method of claim 34, further comprising the step of:

blowing the second fuse to deliver power to the first or third alarm circuit through the alarm connector of the second fuse.

36. The method of claim 34, further comprising the step of:

blowing the first fuse to deliver power to the first or second alarm circuit through the alarm connector of the first fuse.

37. A power distribution bus alarm circuit, comprising:
- a first and a second socket, each having an alarm connection and two power connections;
  - a first fuse positioned in the first socket, the first fuse electrically interconnecting the two power connections and isolating the alarm connection of the first socket from the power connection when in a non-blown state;
  - a second fuse positioned in the second socket, the second fuse electrically interconnecting the two power connections and isolating the alarm connection of the second socket from the power connection when in a non-blown state;
  - a first conductive path extending from the alarm connection of the first socket;
  - a second conductive path extending from the alarm connection of the second socket;
  - a third conductive path extending from the alarm connection of the first socket;
- and
- a fourth conductive path extending from the alarm connection of the second socket.
38. The power distribution bus alarm circuit of claim 37, further comprising an alarm circuit linked to the alarm connections of the first and second sockets through the first and second conductive paths, the alarm circuit being responsive to a voltage being applied from the alarm connection of the first or second socket.
39. The power distribution bus alarm circuit of claim 37, further comprising:
- a first alarm circuit linked to the alarm connection of the first socket through the third conductive path, the first alarm circuit being responsive to a voltage being applied from the first alarm connection of the first socket; and
  - a second alarm circuit linked to the alarm connection of the second socket through the fourth conductive path, the second alarm circuit being responsive to a voltage being applied from the alarm connection of the second socket.

40. A method of employing circuit breakers with a power distribution bus, comprising the steps of:

inserting a first circuit breaker with a pair of alarm connectors in a first location in the bus for receiving power from the power distribution bus;

inserting a second circuit breaker with a pair of alarm connectors in a second location in the bus for receiving power from the power distribution bus;

electrically connecting the first location to a first alarm circuit or a second alarm circuit;

electrically connecting the second location to the first alarm circuit or to a third alarm circuit;

inhibiting a response from the first alarm circuit or second alarm circuit electrically linked to the first location until the first circuit breaker is tripped; and

inhibiting a response from the first alarm circuit or third alarm circuit electrically linked to the second location until the second circuit breaker is tripped.

41. The method of claim 40, further comprising the step of:

tripping the second circuit breaker to deliver power to the first or third alarm circuit through the pair of alarm connectors.

42. The method of claim 40, further comprising the step of:

tripping the second circuit breaker to deliver power to the first or second alarm circuit through the pair of alarm connectors.



43. A power distribution bus alarm circuit, comprising:
- a first and a second socket, each having two alarm connections and two power connections;
  - a voltage source electrically connected to one of the alarm connections of the first and second sockets;
  - a first circuit breaker positioned in the first socket, the first circuit breaker electrically interconnecting the two power connections when in a non-tripped state and electrically interconnecting the two alarm connections when in a tripped state;
  - a second circuit breaker positioned in the second socket, the second circuit breaker electrically interconnecting the two power connections when in a non-tripped state and electrically interconnecting the alarm connections when in a tripped state;
  - a first conductive path extending from the alarm connection of the first socket not connected to the voltage source; and
  - a second conductive path extending from the alarm connection of the second socket not connected to the voltage source.
44. The power distribution bus alarm circuit of claim 43, further comprising an alarm circuit linked to the alarm connections of the first and second sockets through the first and second conductive paths, the alarm circuit being responsive to a voltage being applied across the alarm connections of the first or second sockets.
45. The power distribution bus alarm circuit of claim 43, further comprising:
- a first alarm circuit linked to the alarm connection of the first socket through the first conductive path, the first alarm circuit being responsive to a voltage being applied across the alarm connections of the first socket; and
  - a second alarm circuit linked to the alarm connections of the second socket through the second conductive path, the second alarm circuit being responsive to a voltage being applied across the alarm connections of the second socket.